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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,423	12/28/2000	Ahmed Areef Reza	71493-782/pw	5683

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EXAMINER	
TSEGAYE, SABA	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/749,423	REZA ET AL.	
	Examiner	Art Unit	
	Saba Tsegaye	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *25,45 and 46* is/are allowed.

6)☒ Claim(s) *1-24,26-44 and 47-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed on 10/13/04. Claims 1-49 are pending. Claims 25, 45 and 46 are allowed.

Claim Rejections - 35 USC § 103

2. Claims 1-11, 13-23, 27-43 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al (US Publication 2004/00224901) hereafter Agrawal in view of Fujino et al. (US 6,085,222) hereafter Fujino.

The mapping of the terminology used in the Agrawal reference and the instant application will be stated to simplify the explanation. They both share the same functions and results. Agrawal's home agent 212 is the network node. Agrawal's mobility agent 242 is the radio access node. The entries of the table used in home agent 212 to associate the home address of the mobile node to the care-of-address where it is currently located correspond to the stationary objects. The entries of the table used in the mobility agent 242 correspond to the re-locatable objects. The system 200 is a distributed object framework. The delivering/forwarding of the packets to and from the home and mobility agents corresponds to a remote method invocation. The IP tunneling used to transfer packets corresponds to the raw socket interface. The specification does not further specify the description of the raw socket interface other that it is a connection that forwards packets.

Regarding claim 1 Agrawal discloses a network node (**home agent 212**) adapted to forward a data packet to a mobile host (**mobile node 246**) connected to a radio node by

performing a remote method invocation **(forwarding/delivering a packet)** with the data packet as an argument **(home agent 212 includes a table associating the home address of each mobile node with a global address received from the mobile node. Based on the stored information home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246; for example see paragraph [0055] and [10069 –00711.**

Agrawal does not expressly disclose that the network node being adapted to be part of a distributed object framework, which comprises a set of distributed objects, comprising attributes and methods.

Fujino teaches, in figs. 3-5, a distributed communication system with adaptive data sending control in a computer network. Fig. 4 shows that gateways are furnished with the distributed object environments and program module (column 7, line 64-column 8, line18; column 9, lines 54-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the network node being further adapted to be part of a distributed object framework, as taught by Fujino. The motivation is more integrated and efficient system that will require less signaling and maintain consistency in the interworking functions, thereby increasing route optimization.

Regarding claim 2 Agrawal discloses an input for receiving data packets from an external host having a destination address belonging to the mobile host **(correspondent node 222 sends a packet addresses to the mobile node 246 to the home agent 212; [006])**;

Agrawal discloses a stationary object (**entry in the table**) associated with host belonging to a distributed object framework (**the table is stored in home agent 212; Home agent uses the table entry to associate the mobile node address and its care-of-address to forward packets to the correct mobile node; [0055] and [0069 –0071]**), the stationary object maintaining an association between the destination address of the mobile host and an object reference for a re-locatable object (**table entry stored in mobility agent 242 that associates mobile node address to its care-of- address; [0069 – 0071]**) associated with the mobile host;

Agrawal discloses wherein performing a remote method invocation with the data packet as an argument comprises performing a remote method invocation through the distributed object framework of a method in the re-locatable object associated with the mobile host (**home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246; for example see paragraph [0055] and [0069 – 0071]**).

Regarding claim 3 Agrawal discloses a packet filter adapted to identify data packets having the destination address belonging to the mobile host and to send them to the stationary object associated with the external host (**correspondent node 222 sends a packet addressed to the mobile node 246 to the home agent 212. Home agent must contain a filter since it uses a table to associate the destination address to a care-of-address to forward the packet to the mobility agent 242, and then to mobile node 246; [0066 – 0071]**).

Regarding claim 4 Agrawal discloses where the data packets are IP packets (**IP packets are used [0054]**).

Regarding claim 5 Agrawal discloses a plurality of said stationary objects, one for each of a plurality of external hosts foreign (**network 240 may contain one or more mobility agents 242: [0057]**); wherein:

Agrawal discloses each stationary object has a raw socket interface for receiving and sending packets (**IP tunneling used in the embodiment**);

Agrawal discloses wherein the packet filter is adapted to identify data packets having any one of a plurality of destination addresses and to send each to a particular stationary object responsible for the particular external host from which the packet was received; each stationary object maintains a mapping between each destination address the stationary object is responsible for and a corresponding object reference of a re-locatable object associated with one of a plurality of mobile hosts (**correspondent node 222 sends a packet addresses to the mobile node 246 to the home agent 212. Home agent must contain a filter since it uses a table to associate the destination address to a care-of-address to forward the packet to the mobility agent 242, and then to mobile node 246: [0066 – 0071]**);

Agrawal discloses each stationary object upon receiving a data packet having a destination address through its raw socket interface performs a remote method invocation of a method of the re-locatable object associated with destination address (**home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246; for example see paragraph [0055] and [0069 – 0071]**).

Regarding claims 6-8 Agrawal fails to disclose where the network node/home agent is a gateway node having a backbone connection to forward data packets directly to another network.

Fujino teaches a gateway unit for connecting different networks. Gateway unit includes agent platform unit for accepting and running at least one of the agent unit to which servers and clients are connected (see figs. 3-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the home agent also has the capability to serve as the gateway, as taught by Fujino. The motivation is more integrated and efficient system that will require less signaling and maintains consistency in the interworking functions, thereby increasing route optimization (column 2, lines 30-35).

Regarding claim 9 Agrawal discloses the network node adapted to cause to be generate a stationary object in respect of each of a plurality of external hosts with which the network node is in communication (**home agent 212 creates an association for every new care-of-address that is sent from mobility agent 242**).

Regarding claims 10, 11, 32, 37 and 38, Agrawal fails to disclose a network node where the distributed object framework is an object request broker, and is one of CORBA, DCOM and JAVA RMI.

Fujino discloses an embodiment that describes the features of a mobile switching center utilizing CORBA, Common Object Request Broker Architecture (**the system is implemented using modular software, CORBA; for example see col. 9 lines 54-67**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize software such as CORBA, as taught

by Fujino. The motivation is an efficient and updated system where unnecessary processes and load is reduced. Another aspect is a trend in the art for systems to be easily upgraded and scalable. CORBA is modular software that makes the system scalable functionally and aids in the evolution to next generation systems.

Regarding claim 13 Agrawal discloses the network node which is RSVP aware, and which is adapted to establish RSVP sessions over the network (**the embodiment utilizes RSVP to make reservations for Quality of Service Qos sensitive traffic; [0034]**).

Regarding claims 14, 15, 39, and 40 Agrawal discloses a radio access node comprising: a re-locatable object associated with the mobile host belonging to a distributed object framework, the re-locatable object having a remotely invokable receive data packet method (**mobility agent 242 contains entries that contain the care-of-address of the mobile node that is used to update the home agent and used to forward packets to the mobile node; [0057] and [0069 – 0071]**);

Agrawal discloses the radio access node being adapted to receive a data packet from another network node by having the receive data packet method remotely invoked with the data packet as an argument, and adapted to forward the packet to the mobile host (**home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246; for example see paragraph [0055] and [0069 – 0071]**).

Agrawal fails to expressly disclose where the mobile host is in wireless communication with the radio access node.

Fujino teaches, in fig. 3, a computer network that includes a private wired network 12, a public wired network 15, public radio networks 13 and 14 (radio access node) connected to C1 (mobile host), gateways G1-G3 for connecting these network 9column 6, lines 41-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the radio access node have direct wireless communication with the mobile nodes and serve as a gateway to the packet network, as taught by Fujino. The motivation is more integrated and efficient system that will require less signaling and maintain consistency in the interworking functions, thereby increasing route optimization.

Regarding claim 16 Agrawal discloses where the re-locatable object has a raw socket interface through which to receive packets from the mobile host which are then forwarded by the re-locatable object using next-hop forwarding (**IP tunneling is used to forward packets to and from the mobility agents**).

Regarding claims 17 and 41 Agrawal discloses a radio access node adapted to send the re-locatable object to a different radio access node in the event the mobile host performs a handoff to the different radio access node (**The mobility agent 242 creates an entry in its table to associate a care-of-address with the mobile node's address when it enters the mobility agent's network; [0066]**).

Regarding claims 18 and 42 Agrawal discloses a radio access node adapted to upon initial connection with the mobile host, search locally for the re-locatable object in association with the mobile host, and if not found locally, to request through the distributed object framework that the re-locatable object be provided from a different radio access node if in existence, and if the re-locatable object is not in existence to generate a new re-locatable object for the mobile host (**The mobility agent 242 creates an entry in its table to associate a care-of-address with the mobile node's address when it enters the mobility agent's network; [0062] and [0066]**).

Regarding claim 19 Agrawal discloses a radio access node further comprising an IP dived mechanism adapted to forward packets received from the mobile host to the raw socket interface of the re-locatable object (**IP tunneling is used to forward packets to and from the mobility agents**).

Regarding claim 20 Agrawal discloses a radio access node adapted to maintain a mapping from object references for re-locatable objects to corresponding destination addresses (**The mobility agent 242 creates an entry in its table to associate a care-of-address with the mobile node's address for nodes that are in its network; [0057-0058]**).

Regarding claim 21 Agrawal discloses where the re-locatable object has an object name, which is derived from the IP address of the mobile host (**the entries in the table inside the mobility agent are identified by the mobile node's IP address. This is inherent in order to**

differentiate the plurality of mobile nodes that are inside a mobility agent's network; [0057]).

Regarding claims 22 and 43 Agrawal discloses a radio access node comprising data within or associated with the re-locatable object maintaining an association between a destination address of a different mobile host and an object reference for another re-locatable object associated with the different mobile host; the radio access node being adapted to receive packets from the mobile host having a destination address belonging to the different mobile host and to forward the packet to the different mobile host by performing a remote method invocation with the data packet as an argument of a method in the another re-locatable object associated with the mobile host (**the entries in the table inside the mobility agent contain a plurality of mobile nodes that are inside a mobility agent's network. The mobility agent is able to forward a plurality of packets belonging to numerous destinations to its respective mobile node; [0057]**).

Regarding claim 23 Agrawal discloses a radio access node comprising for each another re-locatable object with which packets are exchanged, a mapping from a destination address of packets destined to a location associated with the another re-locatable object to an object reference for the another re-locatable object, the object reference allowing remote method invocation on the another re-locatable object (**The mobility agent 242 creates an entry in its table to associate a care-of-address with the mobile node's address for nodes that are in its network; [0057-0058]; the entries in the table inside the mobility agent contain a plurality**

of mobile nodes that are inside a mobility agent's network. The mobility agent is able to forward a plurality of packets belonging to numerous destinations to its respective mobile node; [0057]).

Regarding claims 27-29 Agrawal discloses where the re-locatable object is adapted to behave as a proxy for the mobile host for RSVP communications (**the embodiment utilizes RSVP to make reservations for Quality of Se-ice QOS sensitive traffic; [0034]**).

Regarding claim 30 Agrawal discloses a radio access network adapted to provide wireless data packet services to a plurality of mobile hosts each having a network address, the radio access network comprising:

Agrawal discloses a node through which connections to external hosts may be established, the node being adapted to forward incoming data packets specifying destination address to a corresponding stationary object associated with each external host (**home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246; for example see paragraph [0055] and [0069 – 0071]**);

Agrawal discloses a plurality of radio nodes (**one or more nobility agents 242; [0057]**);

Agrawal discloses a network of data packet routers interconnecting the radio nodes and the gateway node and adapted to perform next-hop forwarding (**an IP network is utilized; [0054]**);

Agrawal discloses a distributed object framework through which methods on objects located on the different network nodes may be remotely invoked; for each mobile host connected

to the radio access network, a respective re-locatable object, each re-locatable object having a respective receive packet method which is remotely invokable through the distributed object framework (**mobility agent 242 contains entries that contain the care-of-address of the mobile node that is used to update the home agent and used to forward packets to the mobile node; [0057] and [0069-071]**);

Agrawal discloses for each externally located host connected to the radio access network through the gateway node, a respective stationary object (**the table is stored in home agent 212; Home agent uses the table entry to associate the mobile node address and its care-of-address to forward packets to the correct mobile node; [0055] and [0069 – 0071]**);

Agrawal discloses where data packets arriving from an external host specifying a destination address which is the network address of a particular mobile host are forwarded to the stationary object associated with the external host which then forwards the packet to the re-locatable object associated with the destination address using a remote method invocation (**Correspondent node 222 sends a packet addresses to the mobile node 246 to the home agent 212. Home agent must contain a filter since it uses a table to associate the destination address to a care-of-address to forward the packet to the mobility agent 242, and then to mobile node 246; [0055] and [0069 – 0071]**).

Agrawal fails to expressly disclose where the network node further has the capabilities of a gateway node.

Fujino teaches a gateway unit for connecting different networks. Gateway unit includes agent platform unit for accepting and running at least one of the agent unit to which servers and clients are connected (see figs. 3-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the home agent also has the capability to serve as the gateway, as taught by Fujino. The motivation is more integrated and efficient system that will require less signaling and maintains consistency in the interworking functions, thereby increasing route optimization (column 2, lines 30-35).

Regarding claims 31 and 33 Agrawal discloses a radio access network further adapted to perform normal next-hop forwarding of packets destined for external nodes, which are received from mobile hosts by radio nodes, and packet data network is an all IP network (**IP packets are used [0054]**).

Regarding claim 34 Agrawal discloses a method for a network node to forward a data packet to mobile hosts comprising: maintaining a respective stationary object associated with each of a plurality of external hosts, the stationary objects belonging to a distributed object framework (**the table is stored in home agent 212; Home agent uses the table entry to associate the mobile node address and its care-of-address to forward packets to the correct mobile node; [0055] and [0069 – 0071]**), each stationary object maintaining an association between a respective destination addresses of each mobile host with which the associated external host is in communication, and an object reference of a re-locatable object associated with each such mobile host (**table entry stored in mobility agent 242 that associates mobile node address to its care-of-address; [0069 – 0071]**);

Agrawal discloses receiving data packets from a particular external host having a destination address belonging to a particular mobile host and passing such data packets to the stationary object associated with the particular external host (**correspondent node 222 sends a packet addressed to the mobile node 246 to the home agent 212. Home agent uses the table to associate the destination address to a care-of-address to forward the packet to the mobility agent 242, and then to mobile node 246; [0066 – 0071]**);

Agrawal discloses the stationary object associated with the particular external host performing a remote method invocation with the data packet as an argument through the distributed object framework of a method in the re-locatable object associated with the particular mobile host (**home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246: for example see paragraph [0055] and [0069 – 0071]**).

Agrawal fail to disclose where the stationary object comprising attributed and methods.

Fujino teaches, in figs. 3-5, a distributed communication system with adaptive data sending control in a computer network. Fig. 4 shows that gateways are furnished with the distributed object environments and program module (column 7, line 64-column 8, line18; column 9, lines 54-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the network node being further adapted to be part of a distributed object framework, as taught by Fujino. The motivation is more integrated and efficient system that will require less signaling and maintain consistency in the interworking functions, thereby increasing route optimization.

Regarding claim 35 Agrawal discloses where the data packets are IP packets (**IP packets are used [0054]**).

Regarding claim 36 Agrawal discloses where passing data packets received from a particular external host to the stationary object associated with the particular external host comprises forwarding the packets to the stationary object through a raw socket interface of the stationary object (**IP tunneling used in the embodiment**).

Regarding claim 47 Agrawal discloses the re-locatable object behaving as a proxy for the mobile host for RSVP-like communications (**the embodiment utilizes RSVP to make reservations for Quality of Se-ice Qos sensitive traffic; [0034]**).

3. Claims 6-8, 14, 15, 30, 39 and 40 are rejected under 35 U.S.C.103(a) as being unpatentable over Agrawal in view of Ahmed et al (US 6,747,961) hereafter Ahmed.

Regarding claims 6-8 Agrawal fails to disclose where the network node/home agent is a gateway node having a backbone connection to forward data packets directly to another network.

Ahmed discloses a mobility management scheme for a multimedia network where the network node is also a gateway node (**The network nodes have the additional functionality of a gateway; for example see col 6 lines 56-67, col 7 lines 1-10, and col 10 lines 57-67**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the home agent also has the capability to serve as the gateway, as taught by Ahmed. The motivation is more

integrated and efficient system that will require less signaling and maintain consistency in the interworking functions, thereby increasing route optimization.

Regarding claims 14, 15, 39, and 40 Agrawal discloses a radio access node comprising: a re-locatable object associated with the mobile host belonging to a distributed object framework, the re-locatable object having a remotely invokable receive data packet method (**mobility agent 242 contains entries that contain the care-of-address of the mobile node that is used to update the home agent and used to forward packets to the mobile node; [0057] and [0069 – 0071]**);

Agrawal discloses the radio access node being adapted to receive a data packet from another network node by having the receive data packet method remotely invoked with the data packet as an argument, and adapted to forward the packet to the mobile host (**home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246; for example see paragraph [0055] and [0069 – 0071]**).

Agrawal fails to expressly disclose where the mobile host is in wireless communication with the radio access node.

Ahmed discloses a mobility management scheme for a multimedia network where the network node is also a base station and a gateway node (**The network nodes serves as both a base station to the mobiles and as a intermediary router; for example see col 6 lines 56-67, col 7 lines 1-10, and col 10 lines 57-67**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the radio access

node have direct wireless communication with the mobile nodes and serve as a gateway to the packet network, as taught by Ahmed. The motivation is more integrated and efficient system that will require less signaling and maintain consistency in the interworking functions, thereby increasing route optimization.

Regarding claim 30 Agrawal discloses a radio access network adapted to provide wireless data packet services to a plurality of mobile hosts each having a network address, the radio access network comprising:

Agrawal discloses a node through which connections to external hosts may be established, the node being adapted to forward incoming data packets specifying destination address to a corresponding stationary object associated with each external host (**home agent 212 forwards data packets to the mobility agent 242, where they are subsequently forwarded to mobile node 246; for example see paragraph [0055] and [0069 – 0071]**);

Agrawal discloses a plurality of radio nodes (**one or more nobility agents 242; [0057]**);

Agrawal discloses a network of data packet routers interconnecting the radio nodes and the gateway node and adapted to perform next-hop forwarding (**an IP network is utilized; [0054]**);

Agrawal discloses a distributed object framework through which methods on objects located on the different network nodes may be remotely invoked; for each mobile host connected to the radio access network, a respective re-locatable object, each re-locatable object having a respective receive packet method which is remotely invokable through the distributed object framework (**mobility agent 242 contains entries that contain the care-of-address of the**

mobile node that is used to update the home agent and used to forward packets to the mobile node; [0057] and [0069-071]);

Agrawal discloses for each externally located host connected to the radio access network through the gateway node, a respective stationary object (**the table is stored in home agent 212; Home agent uses the table entry to associate the mobile node address and its care-of-address to forward packets to the correct mobile node; [0055] and [0069 – 0071]**);

Agrawal discloses where data packets arriving from an external host specifying a destination address which is the network address of a particular mobile host are forwarded to the stationary object associated with the external host which then forwards the packet to the re-locatable object associated with the destination address using a remote method invocation (**Correspondent node 222 sends a packet addresses to the mobile node 246 to the home agent 212. Home agent must contain a filter since it uses a table to associate the destination address to a care-of-address to forward the packet to the mobility agent 242, and then to mobile node 246; [0055] and [0069 – 0071]**).

Agrawal fails to expressly disclose where the network node further has the capabilities of a gateway node.

Ahmed discloses a mobility management scheme for a multimedia network where the network node is also a gateway node (**The network nodes have the additional functionality of a gateway; for example see col 6 lines 56-67, col 7 lines 1-10, and col 10 lines 57-67**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to utilize a system where the home agent also has the capability to serve as the gateway, as taught by Ahmed. The motivation is more

integrated and efficient system that will require less signaling and maintain consistency in the interworking functions, thereby increasing route optimization.

4. Claims 12, 24, 26, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal in view of Verma et al (US 6,522,880) hereafter Verma.

Regarding claims 12, 24, 26, and 44 Agrawal further fails to expressly discloses where the re-locatable object is adapted to behave as a proxy for the mobile host for multicast-like communications, and upon the re-locatable object's relocation at a different access node, the re-locatable object is adapted to leave the multicast group, and then rejoin from its new location, all transparently to the mobile host.

Verma discloses a methods and apparatus for handoff of a connection between network devices that utilizes IP multicasting for message transmission to a group. (**IP multicasting is used to transmit messages; see col. 8 lines 40-67 and col. 9 lines 1-27**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agrawal's apparatus to have the capability to support multicast applications, as taught by Verma. The motivation is a system that can broaden its mobility capabilities to many types of applications to support the trend towards increasing real-time multimedia services such as audio and video.

Allowable Subject Matter

5. Claims 25, 45 and 46 are allowed.

Response to Arguments

6. Applicant's arguments with respect to claims 1-49 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues (Remarks, page 18) that Agrawal does not disclose a remote method invocation, using a data packet as an argument, to achieve the transmission of the data packet to the mobile host. Examiner respectfully disagrees. As mentioned in the rejection, forwarding of the packets to and from the home and mobility agents corresponds to a remote method invocation.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
June 27, 2005

JOHN PEZZLO
PRIMARY EXAMINER